
Procurement Systems

Procurement has long been, and remains, one of the most complex business processes. It can be approached in many different ways. Characterised by its novel cross-disciplinary project management approach, this new book covers more than the conventional themes of project solicitation and proposal evaluation. It builds on *Procurement Systems: A guide to best practice in construction* edited by Steve Rowlinson and Peter McDermott, and extends its content to make it relevant to the wider project management community.

Coverage includes general historical context issues, moving on to a practical discussion of different types of project and their procurement needs. This book focuses upon value generation through helping readers to design project procurement implementation paths that deliver sustainable value. It does this by showing readers how to facilitate project stakeholders to identify and articulate both explicit tangible and implicit intangible project outcomes. The book also discusses and provides cutting-edge research and thought leadership on issues such as:

- Stakeholder management
- Ethics and corporate governance issues
- Business strategy implications on procurement
- e-business
- Innovation and organisational learning
- Cultural dimensions
- Human resource development

These issues are focused upon how procurement delivers value – a perspective of procurement that has been of increasing interest.

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Procurement Systems

A project management perspective

Derek Walker and
Steve Rowlinson



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Contents

<i>List of contributors</i>	vii
<i>Preface</i>	xiv
1 Introduction and procurement fundamentals	1
DEREK H.T. WALKER, JUSTIN STARK, MARIO ARLT AND STEVE ROWLINSON	
2 Project types and their procurement needs	32
DEREK H.T. WALKER AND STEVE ROWLINSON	
3 Stakeholders and the supply chain	70
DEREK H.T. WALKER, LYNDA BOURNE AND STEVE ROWLINSON	
4 Business ethics and corporate citizenship	101
DEREK H.T. WALKER, MICHAEL SEGON AND STEVE ROWLINSON	
5 The role of business strategy in PM procurement	140
DEREK H.T. WALKER, MARIO ARLT AND JAMES NORRIE	
6 Performance measures and project procurement	177
DEREK H.T. WALKER AND KERSTI NOGESTE	
7 E-business and project procurement	221
DEREK H.T. WALKER, GUILLERMO ARANDA-MENA, MARIO ARLT AND JUSTIN STARK	

vi Contents

8 Procurement innovation and organisational learning	246
DEREK H.T. WALKER AND TAYYAB MAQSOOD	
9 Culture and its impact upon project procurement	277
STEVE ROWLINSON, DEREK H.T. WALKER AND FIONA Y.K. CHEUNG	
10 Project procurement and the quest for talent	311
BEVERLEY-LLOYD-WALKER, HELEN LINGARD AND DEREK H.T. WALKER	
11 Case study – developing a centre of excellence (CoE)	358
CHRIS CARTWRIGHT AND DEREK H.T. WALKER	
12 Trust, commitment and mutual goals in Australian construction industry project alliances	378
PETER REX DAVIS AND DEREK H.T. WALKER	
13 Innovation management in project alliances	400
STEVE ROWLINSON AND DEREK H.T. WALKER	
14 Business transformation through an innovative alliance	423
ALEJANDRO C. ARROYO AND DEREK H.T. WALKER	
<i>Index</i>	445

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xii Contributors

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Preface

Derek H.T. Walker and Steve Rowlinson

Chapter introduction

Project management (PM) theory and practice have undergone a transformation – from studying and understanding projects with tangible outcomes that are of finite-duration [such as delivery of constructed infrastructure or information technology (IT) products] to radically reflecting upon whether some types of project really exist at all in any concrete or conceptual sense (Hodgson and Cicmil, 2006). PM theory now extends to a broad range of project types from the highly concrete defined-time ‘traditional’ projects to projects that are completely ephemeral and intangible (e.g., events and change management initiatives). This book is mainly focused upon the nature of PM from a practical perspective. Definition of projects and project types are discussed in Chapter 2, and in Chapter 5 we discuss strategy as it is applied to projects and how projects integrate into the general management of an organisation. However, we refer to intangible projects throughout this book and recognise the existence and validity of less tangible projects.

Traditionally, PM theory and practice have poorly addressed the wider issues of procurement as being a key activity to achieve value for money. The USA-based project management institute (PMI) has close to 250,000 members and for many decades has invested much effort in developing competency standards; however, it only recently expanded its focus on procurement as an important PM process. Indeed the latest version of the PMI body of knowledge (PMI, 2004: Chapter 12) devotes less than 30 pages to the process with much of the chapter’s content being focused upon transactional issues such as letting contracts, contracts management and administrative aspects of contract closure. In research [using a survey of members from the UK Association for Project Management (APA) on its body of knowledge] procurement was seen as a commercial area and not a strategic one (Morris *et al.*, 2000). The APA is linked to the umbrella organisation, the International Project Management Association (IPMA), with over 40 PM associations as members (see <http://www.ipma.ch/asp/>) that help align and coordinate international PM standards. The evidence

from the various associations' project management body of knowledge (PMBOKs) reflects the tendency for project procurement thinking to be dominated by traditional PM experience gained over the past half century from construction, heavy engineering, aerospace, ship building and other industries sectors. Recent work criticises PM professional bodies as not fully considering the complexity, indeed the reality, of projects as conceived by many PM practitioners (Cimil, 1999; 2006).

Most PM practitioners' conception of PM is predominantly based upon an assumption of project delivery being an outsourced activity undertaken by the client (or client's agent) with a delivery chain comprising a design team, a main contractor who sub-contracted and supervised much of the detailed operational work and input resources (people, equipment and materials). This rigid and highly segregated form of procurement has attracted much criticism, centred on a failure of the prevailing system to capture value throughout the supply chain. There has been a series of UK government reports, for example, investigating the construction industry, and findings from these indicate that the traditional construction procurement system is a root problem, driving fragmentation, and an adversarial project culture that fails to deliver best value (Murray and Langford, 2003). Several reports (Latham, 1994; DETR, 1998) that are particularly critical of the culture prevailing in the construction industry in the latter decades of the 20th century illustrate a situation that is currently poor in numerous other PM sectors. The Standish group (1994) paints a similar picture of IT PM failure to provide value despite suggesting a more recent 50% improvement in the situation. In their 2003 report they state that:

Project success rates have increased to just over a third or 34% of all projects. This is a 100% plus improvement over the 16% rate in 1994. Project failures have declined to 15% of all projects, which is more than half the 31% in 1994. Challenged projects account for the remaining 51%.

(Standish, 2003)

In terms of procurement, Rooks and Snijder (2001) undertook a survey of 1,252 IT purchasing transactions of Dutch Small- and medium-sized enterprises (SMEs) and found that only 28% of transactions for software, hardware and systems between IT providers and customers do not have some problems associated with them. Their findings show that 45% of transactions had inadequate documentation supplied, and 25% of transactions had 'incompatibility' or 'budget' issues. Although this was associated with the delivery of projects, we can (provided we have the linkage) relate the process of procurement (understanding deliverables, managing relationships, defining service levels and expectations, penalty clauses, liquidated damages etc.) to the success rates. Thus, while project success or failure is

caused by a variety of factors, clearly, selecting a procurement process that improves the likelihood of project success and value creation is an important goal that crosses many PM sectors. Strategising the procurement choice to fit the value propositions of stakeholders who can contribute to project success can be a vitally important element leading to improved PM processes.

Projects start with a procurement process that defines outcomes expected and the project scope, commissions the design to achieve identified outcomes, and assembles the means to deliver those project outcomes. Too often we see adoption of a default or one-size-fits-all procurement process. We attempt in this book to trigger a re-evaluation of the 'norms' because we believe that project procurement is ripe for reflection and adjustment to reflect the plethora of project types being undertaken and contexts in which the procurement process 'norms' are either inadequate or are simply counter productive. This short preface chapter introduces the book's purpose, aim, some founding definitions, and the book's structure.

The value proposition for this book – its purpose and aims

The core issues identified by critics of the traditional procurement system (Kelly *et al.*, 2002; Langford *et al.*, 2003; Dalrymple *et al.*, 2006) recognise the need for value-for-money and improved relationship quality between team members in the project delivery system (Walker and Hampson, 2003). An emerging core interest in project procurement is supported and enhanced by the formation of the International Council for Building Research and Innovation in Construction (CIB) working commission W092 – Procurement Systems. W092 developed a focus on contracts management and forms of tendering for construction projects during the early 1990s. Over the past decade, however, it has embraced investigating the nature of how procurement choices affect organisational culture and working relationships (McDermott, 1999). This contextual discussion will be broadened later in this chapter. We will draw upon the construction industry as it is a reasonably mature PM environment or field of interest; however, we also draw upon many other PM industry sectors.

This book is primarily focused upon how project leaders can make and influence procurement decisions so as to realise a project that truly delivers value to the project stakeholders for project and organisational success. Particular attention is paid to the nature of 'value' in this process; in doing so, we introduce a range of intangible project outcomes, including ethical concepts, to help project managers consider and address relative, identified ethics issues when realising a project.

You will have mastered concepts discussed in this book when you can articulate how to improve the project procurement processes, to capture

value and be capable of doing so by understanding:

- The fundamental meaning of delivering ‘best value’ for projects and programmes;
- The range of procurement options open to project managers and the interface between matching the strategy for value creation with an appropriate procurement delivery choice;
- Cultural dimensions that show how project leaders can develop supply chain and competitor alliances and joint venture arrangements to synergise each partner’s capacity to deliver project outcome value;
- How stakeholders can influence the value that a project can generate and how they can influence its realisation through a project by designing a procurement process that recognises their input and influence;
- How innovation and organisational learning can be incorporated into procurement processes to generate value;
- How value from e-business can be harnessed to effectively and efficiently procure projects;
- How PM leaders can balance cooperation and competition in procuring projects or being part of a group offering PM services;
- The impact that attracting the best talent to work on projects can be achieved through procurement choices that encourage and reward performance;
- How to use value measurement tools that provide better leading indicators of value generation; and
- How to develop an appreciation for, and awareness of, the role of ethics and being a good corporate citizen in delivering PM value.

The focus of the book is illustrated in Figure P.1. The key theme is procuring project value. Organisations tend not to want to merely source products, equipment, people or systems; rather they have a complex (often implicit) need for a bundle of resources that help them generate and deliver something that will be valued by those receiving the project product/service.

Value can be explicitly and implicitly expressed. Understanding procurement options allows us to manage procurement choices and subsequent outcomes.

We can effectively define and redefine the procurement process to match the way that we and critical stakeholders perceive value so that we can focus on efficiency to reduce costs/time (doing the thing right) and effectiveness by focusing on value-based differentiation (doing the right thing). Our understanding of the value chain and the nature of value, affects our perception of value. We also find the need to balance cooperation and competition across project phases. Understanding ethics and corporate governance issues to ensure probity in project delivery is not only essential but affects our perception of project value.

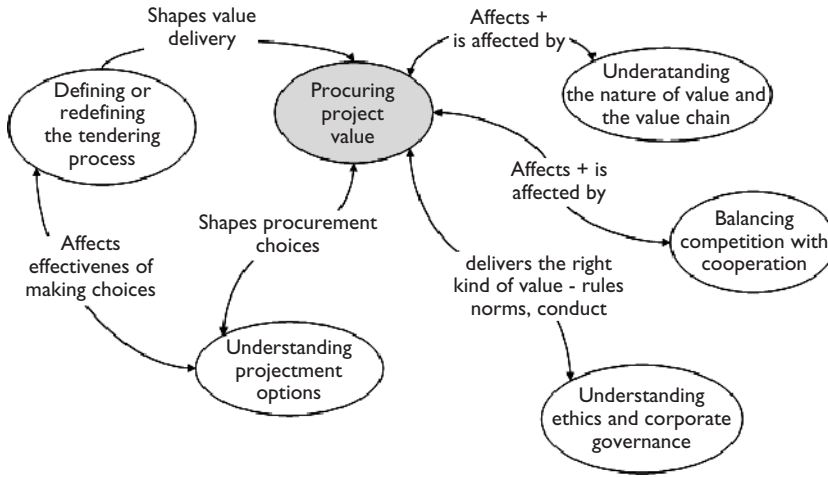


Figure P.1 Focus of the book.

The context of project procurement systems

This section provides an example of how the concept of procurement has been developing in a PM environment. When reviewing the PM literature such as the PMBOK (PMI, 2004) or the Morris and Pinto book (2004), for example we see procurement viewed predominantly with a supply chain management focus. Many IT or business process PM project managers mainly perceive procurement as a make-or-buy decision from a choice of in-house sourcing or from an outsourcing perspective. Some of the richer and more fine-grained research work into project procurement can be found in the construction management literature. It is for this reason that we will now summarise highlights from that wide body of work.

Jack Masterman produced one of the first texts in building procurement systems. (Masterman, 1992; Masterman, 2002) and Rowlinson in Rowlinson and McDermott (1999) developed the work further and provided a definition of procurement systems based on nine years of the work of the CIB¹ Working Commission 092 (W092). Walker and Hampson (2003), among others cited in this text, brought relationship-based procurement systems more fully to the attention of the construction and PM fraternity. The evolution of this project procurement definition is repeated below and discussed in the subsequent sections of this chapter. W092 members and other academics in this field view a construction procurement system choice as a strategic decision that subsequently affects the whole construction process and that the procurement concept is a very broad issue. However, they recognised the need for appropriate procurement

xviii Preface

PM and administration processes to be followed regardless of which procurement strategy may be chosen. They describe the aims and objectives of CIB Working Commission W092 Procurement Systems (established in 1989) as follows:

- To research the social, economic and legal aspects of contractual arrangements that are deployed in the procurement of construction projects;
- To establish the practical aims and objectives of contractual arrangements within the context of procurement;
- To report on and to evaluate areas of commonality and difference;
- To formulate recommendations for the selection and effective implementation of project procurement systems; and
- To recommend standard conventions.

This working group aimed to serve the needs of the international construction research community in times of change, as the 1980s had brought significant changes in the legal, economic and social structures of states in both Developing and Developed Countries. Privatisation, in its many guises, was on the political agenda not only in Europe and North America, but also in Eastern Europe (through the transitions from socialist to capitalist systems), and in Africa and Asia (through Structural Adjustment Programs). W092 has achieved a broadening of the procurement agenda, which is accepting a diversity of viewpoints, the recognition of the impact of culture and, overall, a contingency viewpoint.

The construction procurement concept had been poorly defined prior to CIB W092 and this is also reflected in other PM related business activities. It is worth exploring the development of the procurement concept by this construction group as it is likely to be applicable to other PM situations. The CIB commission initially adopted a general definition of the procurement term as *'the act of obtaining by care or effort, acquiring or bringing about'*, from the standpoint that such a conceptualisation of procurement would raise awareness of the issues involved both in challenging generally accepted practices and in establishing new strategies. Mohsini and Davidson (1989: p86), attempted a more sophisticated definition – *'the acquisition of new buildings, or space within buildings, either by directly buying, renting or leasing from the open market, or by designing and building the facility to meet a specific need'*. This led to a debate amongst commission members in Montreal in 1997 over the proposed definition: *'Procurement is a strategy to satisfy client's development and/or operational needs with respect to the provision of constructed facilities for a discrete life-cycle'* Lenard and Mohsini (1998: 79). Thus the commission's view was that the procurement strategy must cover all of the processes in which the client has an interest, indeed the whole lifespan of the building.

However, the usefulness of such definitions has been questioned. McDermott (1999), noted that existing definitions (at that time) while being useful for making comparisons of projects or project performance across national boundaries, were limited to developed market economies – a conclusion supported by Sharif and Morledge (1994) who have drawn attention to the inadequacy of the common classification criteria describing procurement systems (such as those discussed in Chapter 2 of this book) in enabling useful global comparisons. This criticism is exacerbated by procurement choice descriptions being used differently by different PM sectors: for example, in IT or product development – ‘design and build’ in construction terms is a valid and meaningful choice, yet in many other PM settings a component is often specified in broad performance terms by a main contractor; the supplier designs, manufactures and installs that element as being part of a supply chain. This is simply part of the make-or-buy decision discussed in Chapter 1. Thus, the whole procurement typology debate has been broadened in the construction industry context into one which covered a whole-of-life cycle to also include economic, political and cultural issues. Evidence of this appeared in Latham (1994: 5), who stated that *‘some international comparisons reflect differences of culture or of domestic legislative structures which cannot easily be transplanted to the UK’*.

McDermott further points out that key assumptions contained within the definitions, client choice and the availability of a range of procurement options, are irrelevant to Third World countries (McDermott *et al.*, 1994). Following intensive debate, a working definition of procurement was developed by CIB W092 at its meeting in 1991, defining it as *‘the framework within which construction is brought about, acquired or obtained’* (unpublished document). McDermott argues that his definition serves a useful purpose as it is both broad, encouraging a strategic interpretation, and neutral, being applicable to developed and market economies.

W092 has a number of focus areas that are current and internationally relevant. Amongst these are development and privatisation; these are issues which, although having developed in the western economies, have a high degree of relevance to Asia, where the rapidly developing economies of China and India have looked towards the private sector to meet some of their burgeoning infrastructure needs. Most countries in the world have moved towards privatisation and public private partnerships (PPPs).

A commonly occurring project procurement theme is that of the role of culture in the shaping of procurement systems. In particular the roles of trust and institutions are increasingly important. These issues will be discussed later in this book but the issues have arisen in both the west and the Asian economies for separate reasons. Of course, the nature of culture determines the nature of trust, and also history as well as culture determines the nature of the institutions within which procurement systems operate. This is a fruitful and exceedingly interesting area of research.

Along with culture and institutions comes conflict. The move away from adversarial approaches to procurement and contracts, and a move towards collaboration and relationship management, can be seen to have permeated the systems in Europe, North America and Australia. However, such changes are also taking place in Asia, particularly in China, and the Japanese system has embodied relationship management in its Kaizen approach, systematic incremental improvement (Imai, 1986), for many decades now. Thus, the work of W092 on an international basis has great relevance for research and dissemination, and along with procurement must come considerations of sustainability. Sustainability, a quadruple bottom line view in terms of social, economic, environmental and safety issues, is an essential prerequisite for the continuance of development. Indeed, sustainability is embedded in procurement systems in the UK through the concepts of community benefit (Donnaly, 1999). In this section we have tried to introduce the reader to the broad field of project procurement that unfolds in this book.

Structure of the book

The book is presented in two main sections. The first section presents fundamentals of procurement. Each chapter in that section contains a short vignette, together with questions raised and links to useful resources to address those questions.

Chapter 1 provides a discourse on the nature of value, PM, and procurement, and defines terms and the historical journey that has led from a lowest-cost tender to the sophisticated view expressed in this book, and the literature that has supported the development of this book. It discusses the 'make or buy' decision and the rationale for outsourcing and also the various outsourcing types.

Chapter 2 addresses the issue of the context of different types of project and how that impacts upon a choice of procurement methods to use. A discussion of relevant contract administration issues is also presented as they relate to generating and maintaining value within the context of procurement choices.

Chapter 3 views procurement from the stakeholder perspective. Stakeholders can add considerable value to projects as well as negatively threaten projects, draining management energy and causing disruption.

Chapter 4 includes important discussion of ethical issues relating to procurement. This chapter also discusses project and corporate governance and the impact of brand image upon those associated with a project.

Chapter 5 is important because it discusses the strategic decisions that anchor a project in a particular trajectory, the initial approval to proceed and the strategies that may govern the project throughout its life cycle.

Chapter 6 logically discusses performance measures and ways of value being perceived, and how to assess the effectiveness of project teams in

a holistic manner. This chapter indicates how recent research has shown how hidden intangible value can be identified and linked to more tangible project outputs so that the true value of a project can be better articulated and monitored.

Chapter 7 investigates how e-business has affected project procurement choices and procedures. This chapter also discusses important facets of how information communication technology (ICT) is supporting project procurement and delivery processes and how it should be factored into a project procurement and delivery strategy.

Chapter 8 addresses the important and often neglected aspect of innovation, organisation learning and knowledge management (KM) that can add value to project procurement processes.

Chapter 9 brings forward critically important issues relating to cultural dimensions of procuring and delivering projects. These include the cultural environment of a project and how a procurement design can set it on a more positive trajectory. Project teams these days comprise cross-cultural groups, whether cross-national or cross-disciplinary. These issues are relevant to considering and designing an effective procurement and project delivery strategy.

Chapter 10 addresses a key issue relating to project delivery. Projects do not deliver themselves; people deliver them. Therefore, effective procurement choices should build in value that tempts the project organisations to attract the best available talent to deliver value. This is as relevant to both in-sourced and out-sourced projects.

In the second section, four chapters are presented which provide research results and case studies of organisations, some of whom have had their identities disguised. These are taken from the Construction Industry, the IT Industry, and the logistics Industry. They develop ideas on PM procurement practice through case studies involving alliancing, business transformation, process improvement and the establishment of a centre of excellence project. Each case study provides a description of the project context to help readers understand the issues, challenges and quandaries facing these projects in their procurement choices. Responses and/or solutions to these quandaries are then provided. Each aspect of the 'what' issues are given relating to Chapters 2–5. Additionally, the 'how' and 'why' issues are addressed in Chapters 6–10.

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Chapter summary

This chapter introduced the book. Figure P.1 illustrates the focus of the book, being firmly on delivering value through a procurement system that builds in and designs in value as a fundamental proactive process. We introduced procurement in the context of PM and also traced the recent history of the evolving procurement field of study. We stress that we have to strategically design processes that drive a value agenda to effectively achieve value delivery in PM. We expect that this book will break new ground, triggering people to re-think procurement and how it can be used as a change management agent. This can be achieved by introducing innovation, ensuring an ethical process with due justice being a core value, so that value is generated for as many players as possible in the supply chain. We indicate how strategy and e-business trends can influence project procurement, and we also highlight new performance measurement tools that can address the needs of a range of stakeholders on a range of project types. Importantly, we address the issue of how to attract and retain the best talent to implement projects, be that from in-house or out-sourced teams. We believe that this book provides a fresh, engaging, and strategic approach to the field of procurement that has for too long been viewed as being only transactional ‘purchasing’ and ‘contracts administration’ functions. We provide four stimulating case study examples of leading edge procurement application where tools, transformation and relational engagement are key drivers of this fresh approach.

Note

- 1 CIB is the acronym of the abbreviated French (former) name: ‘Conseil International du Bâtiment’ (in English this is: International Council for Building). In the course of 1998, the abbreviation was kept but the full name changed to: International Council For Research And Innovation In Building And Construction. The CIB was established in 1953 URL is <http://www.cibworld.nl/website/>

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xxiv Preface

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